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NEW VARIETY OF COTTON.

Something as to a Plant Grown on a Farm in Georgia.

There never has been a year since cotton has become a leading product of the United States that there have not been startling announcements of newly-discovered varieties of wonderful productiveness, fineness, strength, etc. Cotton-men are pretty skeptical, therefore, and will not usually take the least trouble to investigate the truth of the reports.

Some weeks ago the papers published sensational stories of the discovery of a new kind of cotton on a farm near Atlanta, Ga., of such wonderful productiveness that a club of neighboring

many had 20, and those having less than five were very infrequent. It is claimed that ordinarily it should average 10 bolls to the stalk. The rows are two feet apart, and the plants four inches apart in the row; the stalk shoots up straight, with apparently little tendency to 'stool' or limb, and it fruits directly from the stalk. A leaf bud appears on the stalk, a short twig or stem is developed, and at the joint of the leaf and the twig the fruit, with from one to five bolls, is formed. The history of the plant so far is that when the boll matures the leaf drops off, so that there are never more than three or four leaves at a time on a stalk, they being at the top, an advantage in picking the cotton as well as a safeguard against disaster should the plant be attacked by the army worm, for he would starve to death. Some commentators have suggested that this tendency to shed its leaves may be due simply to the drought, which somewhat similarly affects all vegetation, but this hypothesis would hardly account for the fixed habit of this plant to invariably shed its leaf only after the maturity of the boll.

"As I remarked before, it can scarcely be claimed that this cotton has proceeded beyond the experimental stage, and until it is scientifically investigated and given the benefit of extensive cultivation throughout a number of seasons in various places, and its progress from germination to maturity and then to the loom, has been carefully noted by a number of authorities, there must be an element of speculation as to its methods and its merits; but there hardly seems room for reasonable doubt that it is a distinct and new variety of cotton, and that it will give results far beyond any variety now grown. I was talking with an expert the other day, who admitted he had made no examination of it, but who expressed the belief that it was simply one of the varieties heretofore grown in this country. I asked him if it would be possible to raise an average of 10 bolls to the stalk of ordinary cotton if it were planted, as this was, in two-foot rows four inches between stalks. He promptly declared it would not. Ordinarily, cotton is planted in three to four-foot rows, from 12 to 16 inches apart. And here, it would appear, is a radical point of advantage, which, waiving all other considerations, is sufficient to merit the most exhaustive experimentation. In an acre of ordinary cotton, with four-foot rows, and at 12 inches apart, there would be 10,920 plants. With this cotton, planted in two-foot rows and at four inches apart, there would be 66,150 plants to the acre. So that, allowing for bad season, accidents, ravages of insects and worms, it would appear that two bales to the acre might almost be counted on as an average crop. For one thing does seem to be clearly established, and that is that, unlike the ordinary cotton, this plant is more thrifty and prolific when planted closely.

"At the time I visited the patch the open bolls had been pretty well picked, but at Mr. Jackson's house were a number of stalks which had been cut with all the bolls filled. No photographs had been taken of the cotton. I secured a photograph of the field, with pickers just cleaning up the patch, and had several of the stalks with filled bolls photographed. The shortest of these is about two feet high, a cutting, and has 15 open bolls. I also had a bundle of

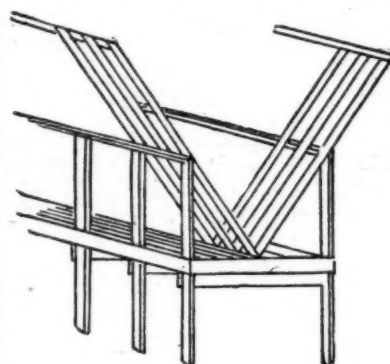
It seems that after all there is some basis for the report, and Albert Pheasant, a correspondent of the Baltimore *Manufacturers Record*, a paper which has a high standing for care and accuracy in its reports—has been investigating the subject. He says: "I have several times visited Mr. Jackson's place, and have made a somewhat detailed examination of the patch, the plant, and the product. I measured the patch, and found it contained a few feet (13 square feet) more than one-third of an acre. I was informed that there had been picked some 800 pounds of seed cotton from this small patch, and there are top bolls enough already matured to increase this yield to possibly 1,000 pounds, which would be from 2,400 to 3,000 pounds of seed cotton to the acre, and this in a year of unusual and blighting drought. It is said that no commercial fertilizers were used; that the site was selected because of the poor quality of the soil, and that the crop was raised without irrigation (which might have been supplied), the intention having been to give the severest possible test to the new variety. Granting these conditions, the result is scarcely less than marvelous. The stalks will average six feet in height, while ordinary cotton on farms immediately adjoining, and with soil of apparently similar character, is in this droughty year only one to two feet in height.

"I counted the open and the matured bolls only on about 100 of these stalks. The highest I found was 53; a great

"The seed of this cotton is another peculiarity. It is smaller than that of ordinary cotton, so that 1,500 pounds of seed cotton is calculated to make a bale of the lint, instead of 1,600 pounds, as with ordinary cotton. It appears also to have a characteristic mark, a seam down the center of one side, and Mr. Jackson is authority for the statement that it germinates from the center instead of from either end, as does the common cotton. It is said there are nine seeds to each lock, invariably."

A Rack for Feeding Whole Fodder.

Mr. C. H. Everett furnishes the *Prairie Farmer* with a description and outline illustration of a combination



feed rack for fodder, hay, straw, ensilage, grain, or meal, which he has used for several years and pronounces the best, especially for whole fodder, he ever saw. It is five feet wide, has a tight bottom, and may be made any length desired. "I built mine, however," he says, "12 feet long, as they are more easily moved than if made longer. The posts are four by four and six feet long; the slats that hold the fodder, four inches wide and eight feet long; the space between the slats is four inches. A two by four is spiked on top of the posts and another is placed through the center at the bottom; to these the slats are nailed; the bottom is made of fencing and a six-inch board is put around outside to hold ensilage, grain, etc. The rack is not expensive to build, and is strong and durable. It can be used in sheds, or half in yard, and around the outside use half, allowing tight-board fence to form the back of the rack. I throw in bundles of fodder, reach through between the slats with a jack-knife and cut the strings. The stock cannot pull the stalks out and scatter them about the yard, as is the case with low-down, open racks. Every bit of foliage will be pulled off—not a particle of waste beyond the bare stalks. Whenever necessary, clean out the stalks, place them in a pile somewhere—mixing manure with them—to rot. We are about to make a rack similar to this for sheep. It will be lower, of course, and not so wide, and the slats will be placed straight up and down to avoid any litter falling into the wool. A two-by-four or fence board will be nailed on to keep the sheep from getting into the rack with the fore feet."

Smut in Wheat.

The Minnesota Station has been experimenting in preventing smut in wheat. The experiments with the copper sulphate consisted of either sprinkling the grain with the solutions or dipping the grain into the solutions, and after each treatment part of the seed was sown in the field. In the hot-water treatment the temperatures employed were, for first dipping, 120° F., and for the second 130° or 135° F., and for the second 130° or 135° F., the times of immersion varying from two to 10 minutes. The best results obtained were those in which the seed was dipped until thoroughly wet in a solution of one-half pound copper sulphate to 16 gallons water, after which it was dried in lime; and in the hot-water treatment, where the grain was soaked in water at 120° for 10 minutes and then for 10 minutes at 135°. In each case 0.1 per cent. smutted plants were grown from the seed as compared with from 11 to 20.6 per cent. in the check lots. Soaking the seed in cold water for 15 minutes gave 10.4 per cent. smut, and in a saturated salt solution 3.3 per cent.

Flax on Soil.

Prof. W. Saunders, of the Canadian Experimental Farms, has been making experiments in flax-growing. He states that "the difference in exhaustive effect of these several crops (wheat, oats and flax) on a rich soil would scarcely be perceptible, and would not justify the opinion that flax is a very exhausting crop." When grown for fiber, flax is pulled at a cost of \$4 to \$5 per acre, the yield of fiber averaging one and a half tons, and of grain eight to nine bushels per acre. The average yield in Manitoba when grown for seed in 1895 was 15 bushels per acre.

AGRICULTURAL PRODUCTS.

The Ways and Means Committee Hears the Representatives of the Farmers.

The Ways and Means Committee of the House of Representatives began the consideration of the Agricultural Schedule of the new Tariff Bill, Jan. 5. A large number of representatives of various agricultural interests were present and were heard.

There was a conflict between Mexican cattlemen and Congressman Curtis, of Kansas, over the effect on cattle and beef production in this country of the Wilson rates. Representatives of the Pennsylvania and Virginia Granges asked for bounties on agricultural products. The Massachusetts fishermen and fish dealers and the salt importers and New York producers had interesting tilts. The Southern rice growers argued the necessity of higher protection, and similar arguments were presented by California fruit-growers, Philadelphia seed men, and macaroni makers, while importers of Bermuda potatoes and onions wanted concessions.

Cattle-growers had the first inning. F. H. Rockwell, of Warren, Pa., who owns grazing lands in both Mexico and Kansas, opposed high duties. He declared the McKinley rate was prohibitive and injured Americans who had invested their money in Mexico.

M. M. Sherman, of Salina, Kans., in talking of cost of cattle production, incidentally stated that American labor was the cheapest in the world, which provoked a laugh, until he explained that in the cattle business one American would do the work of two Mexicans.

Asked why he had removed to Mexico, Mr. Sherman said because of the lack of ranges here. Chairman Dingley said there were plenty of ranges in Colorado, Wyoming, and other Western States. It was impossible to acquire title to ranges in this country, was the answer, and, moreover, said the witness, the American laws gave a man's competitors the advantage of all the improvements he introduced into his business. In Mexico the cattlemen owned their ranges.

KANSAS NOT BACKWARD IN ASKING.

Representative Curtis, of Kansas, appeared as the advocate of the American cattle-raiser, feeders, and farmers of Kansas, and asked to have restored the duty of \$10 a head on all cattle one year old and over and \$2 a head on calves less than one year old. He declared that the importations of Mexican stock had injured the business in Kansas, and consumers had been fed a poorer quality of beef. "If Congress will restore the duty," added Mr. Curtis, "Kansas will pledge herself to produce her share of cattle without raising the price of beef."

Representative Turner, of Georgia, asked Mr. Curtis if he would sacrifice the revenue of \$432,000 produced from cattle.

"Revenue can be raised on other items," was the reply, "as it has been heretofore, by Republican legislation. There never has been any trouble about revenue under Republican administration."

"Then you are for a duty for protection only?"

"I am for protection and revenue. And I would have a duty absolutely prohibitory on every agricultural product that can be raised in this country. Kansas would like duties on hay, oats, and flaxseed."

"How about silver?"

"A large duty on silver would be a good plan."

Representative Blue, of Kansas, spoke for a duty on cattle which would accomplish the practical exclusion of the lower grades.

Mr. W. B. Sutton, formerly of the diplomatic service, recommended an ad valorem tariff on cattle. If Mexican cattle were again barred into Mexico would retaliate against our hogs.

Mr. Tawney called attention to the fact that the discrimination against hogs was continued.

Mr. Sutton asked him to consider American investments in Mexico.

INTERESTS OF CALIFORNIA PRESENTED.

Representative Bowers, of California, declared that the Wilson law had killed the cattle business in California, flooding the State with Mexican cattle. Labor was 50 cents a day in Mexico. He combated the statement of the cattle-raiser that but few of the Mexican stock imported were sold, being brought in for feeding. Not more than one in 10 were imported for feeding.

Mr. Bowers, in behalf of the California

fruit-growers, asked for higher duties on fruits. The \$16,000,000 worth of fruit imported annually, he said, might be grown by Americans. He suggested duties of three cents a pound on raisins, plums, prunes, and all other dried fruits, and 20 cents a cubic foot on oranges. Americans were peculiar about some things, and preferred foreign wines and fruits at higher prices, just as some of their daughters preferred greasy liberties and gamblers because they had a foreign label. He read petitions from raisin-growers of Fresno and other places.

Senator Perkins, of California, presented the memorial recently adopted by the State Fruit-Growers' Organization. In addition to the recommendations by Mr. Bowers, he asked for duties on nuts and lima beans and chicory, and that the duty of the Wilson law on coconuts be dropped.

The duty asked on lima beans was 50 cents per 100 pounds; on raw chicory, one and one-half cents a pound, and on manufactured the present rate of two cents. A duty on pearl barley was asked also. The almond growers of California were represented by T. B. Armstrong, of Campo. He stated that from \$12,000,000 to \$15,000,000 was invested in the business and from 20,000 to 30,000 hands employed. The business had been brought to the verge of bankruptcy by the Wilson law, and an increase of rates from three cents to six cents was asked.

EXPORT BOUNTIES ADVOCATED.

David Lubin, of California, made a brief speech in advocacy of export bounties on agricultural products.

Grand Master Rhone, of the Pennsylvania State Grange, advocated protection for the farmers. While the leather manufacturer was doubly protected a Republican Congress had placed raw hides on the free list, refusing to give the American farmer the same protection given the manufacturer. A Republican Congress had reduced the duty on wool, and a Democratic Congress had placed wool on the free list. The farmers knew that protection could not do for them what it did for the manufacturers. It could not add a cent to the price of wheat or flour. Therefore the only protection for the farmer against the cheap lands and cheap labor of the world was by export bounties on corn, cotton, wheat and other products.

State Senator G. C. Brown, of Pennsylvania, a member of the Legislative Committee of the Grange, presented a memorial from that body. It asserted that the prices of many agricultural products were below the cost of production and that the opening of the Siberian Railway by Russia would open great tracts of land to be cultivated by improved machinery which would reduce the prices of cereals. Export bounties were asked.

At the afternoon session a committee consisting of Burnet Landreth, W. F. Drew, and W. A. Burpee, of Philadelphia, representing the seed farmers, laborers, and importers, asked that the present ad valorem rates be changed to specific duties levied by the bushel or pound.

A. J. Wedderburn, Master of the State Grange of Virginia, spoke briefly for protection for the farmers.

Edward N. Loomis, for the produce merchants of New York, asked for a lower duty on Bermuda onions and potatoes during March, April, and May than during the rest of the year.

CLAIMS OF SOUTHERN RICE DEALERS.

The rice interests were represented by a large party. The delegation included Theodore G. Barker, Samuel G. Stone, and Isaac Bull, of the Charleston Chamber of Commerce; Fred G. Ernst and Emil Dupre, of the New Orleans Board of Trade; Charles A. Lowry, Miron Abbott, and C. L. Crippen, representing the planters of southwest Louisiana, and George G. Bauer, of the Lake Charles (La.) Board of Trade. The spokesman, Thomas J. Barker, said that the industry was absolutely dependent upon protection. In the two Carolinas, Louisiana, and Georgia the crop had been reduced one-half by the reduction of the tariff, on account of the competition of Asiatic cheap labor. The opening of new lands in southeastern Louisiana and Texas promised to supply the market of the United States—with proper stimulus. An article called unclean rice was evading the duty, and should be barred out.

In answer to Mr. Turner, the witness said that there had been a large increase in the crops in the past few days. The duty asked was two cents a pound on cleaned rice (present rate, one and one-half) and on uncleaned one and one-quarter (present rate, eight-tenths cent). Mr. Ernst spoke of the necessity for a more strict classification of varieties of rice.

Macaroni was represented by A. J. Toomey, of New York, a manufacturer

of raw materials. The American and foreign manufacturers were on the same plane. The average wages paid in the United States were \$11 a week to men, \$5.50 to girls, 67 per cent of the workers being the latter. The average wages in Italy was \$1.66 a week. The restoration of the McKinley rate of two cents a pound, instead of the Wilson 20 per cent. ad valorem, was asked.

TWO SIDES TO THE SALT QUESTION.

Franklin Woodruff, of Brooklyn, an importer of salt, held that a duty on that product fell heavily on the Southern States and New England. He was subjected to a lively cross-examination by Messrs. Payne and Grosvenor, and declared that under the Wilson law the Syracuse salt was more largely sold in New York markets than the foreign article.

Mr. Payne—Has not the effect of the Wilson bill been to take the making of most of the salt consumed in this country from American workmen and to give the business to foreigners?

Mr. Woodruff—It may have had that effect.

Mr. Tawney—What has been the difference in price?

Mr. Woodruff—About equivalent to the difference in the tariff.

THE DUTY ON WOOL.

Jan. 6 was mainly taken up by the wool-growers. Most of the time was consumed by Judge William Lawrence, of Ohio, President of the National Wool-Growers' Association, and Theodore Justice, a Philadelphia wool-dealer. The recommendations of the growers were for a rate of 12 cents on unwashed wools, 24 cents on washed, and 36 on scoured, the Australian unwashed to be classed as washed, and all rates to be advanced half a cent a year for six years.

Mr. Justice presented a great array of statistics to show the ruin of the wool business by the Wilson law. He combated the idea that the rates demanded by the growers were too high, and stated that the decrease in the prices of goods to consumers under the Wilson law was equivalent to the reduction in the tariff.

John G. Clark, of the Washington County (Pa.) Wool-Growers' Association, said the experiment of free trade has been a crime. The value of lands had declined and sheepmen in all parts of the country had been driven from business. The sheep-raisers asked only a moderate duty that would enable them to continue in business.

The Democratic members of the committee probed the witness for some time. Mr. Wheeler, of Alabama, asked if clothing for the workmen had not been cheaper under free wool, to which Mr. Clark replied that most of the clothing sold now was shoddy. Importations of shoddy had increased under the law.

SAYS THE WOOL-GROWERS ELECTED MCKINLEY.

One hour was given to Judge Lawrence. His statement was an exhaustive review of the wool industry under different tariff rates during the last half century.

Referring to the political aspects of the matter, Judge Lawrence asserted that the election of Mr. McKinley had been accomplished by the votes of the wool-growers in a half dozen doubtful States, who would have voted for Bryan and free silver had they not considered protection on wool more important than free silver. If this protection were not given there would be a free silver Congress two years hence, and in four years a free silver President and Congress.

The McKinley bill, as it came from its author, had been moderately protective on wool, but the addition of the skirting clause and ad valorem rates made it disastrous. Then came the Wilson law. Under this law the number of sheep in the United States had decreased 3,000,000 a year, with a total loss of \$60,000,000, according to official statistics. Unofficial and more accurate figures proved the loss to wool growers through the Wilson rates to have been \$178,700,000. Mutton sheep, which should be raised in this country, were being imported from Canada.

PEOPLE OUGHT TO PAY FOR LUXURIES.

"Personally, I would like a much higher duty than 12 cents," said Mr. Lawrence, "but the growers limit their demands to that figure."

When the speaker asserted that Australian wool could be put on ship at Melbourne at a cost of 9 cents a pound, Mr. Wheeler, of Alabama, commented: "And that is the wool on which you ask 24 cents duty?"

"Well, 24 and 9 is 33 cents, and that wool will bring from 4 to 7 cents more than ours in Ohio, which would leave us only about 25 cents. If people will use luxuries they should pay a luxurious duty."

"Would a pound of Australian wool

be brought into this country at 24 cents?" asked Chairman Dingley. "There would. Any way, it would transfer our trade from Australia, where we have to pay in gold, to South America, where we would exchange agricultural implements and goods for their wool."

Continuing, Mr. Lawrence urged that China wool should be classed as first class, otherwise there would be an influx which would kill the American business. Incidentally he referred to the ad valorem system as "the most infernal scheme ever invented by rascals on earth."

A PLAN NOT LIKELY TO BE ADOPTED.

As a plan to prevent a flood of imports pending the passage of a bill, Judge Lawrence suggested that Congress pass at the present session a bill declaring that all articles imported after the first day of the first session of the 55th Congress be subject to the rates of duty of any law passed by that Congress, when the new rates are an advance; bonds to be given by importers for such payments before goods can be withdrawn.

"The Senator from Montana (Carter) on my right says that the Senate might pass such a bill by October," interrupted Mr. Dingley.

As Mr. Lawrence was explaining that under the schedule proposed by his association American wool growers would supply the home market in four years. Mr. Dalzell inquired how much revenue would be secured. "A little more than the McKinley law. Eight or ten millions during the four years," he replied.

"And finally get none," interposed Mr. Wheeler.

"Why should we want any," retorted Mr. Lawrence, amid laughter. "I mean from wool," he amended. "The country will be prosperous and we can get revenue from other sources."

Mr. Turner, of Georgia, inquired if the schedule had not really been drawn to shut out the higher grades of wool, which Mr. Lawrence denied.

In reply to questions from Mr. Turner, Mr. Lawrence said the average citizen would receive \$25 worth of benefits for every \$5 advance in the price of wools. The point was then elicited that the wool growers' plan proposed an annual increase of one-half cent a pound. "And where would we finally land?" inquired Mr. Dingley.

"The increase would end at 15 cents a pound," was the explanation.

WHY FARMERS SOLD THEIR SHEEP.

Mr. Theodore Justice stated that while the trial of free wool under the Wilson law had slightly benefited the consumer by reduction in prices, the saving had been greatly outweighed by the loss in purchasing power. The gain by lower prices had averaged 93 cents per capita, while the loss amounted to more than \$7. The average loss to the wool-grower had been \$422.83, while the mill hands and laborers of the United States had lost \$85,000,000 during the past year. The McKinley law had given the cheapest priced clothing ever known up to its time. He gave figures showing the effects of the tariff of 1867, under which flocks had increased 25 per cent. in four years; that of 1883, the worst ever known; the McKinley law, under which flocks had increased 13 per cent, and the last period, under the Wilson law. "When it was known," said Mr. Justice, "that Grover Cleveland meant to continue his assaults on this industry, with the assistance of both branches of Congress, farmers began to dispose of their flocks. From 1893 to 1896 the number of sheep had decreased 23 per cent, and there were now fewer in the United States than in 1865. Had the McKinley law been continued the United States would be able to produce its full consumption of 650,000,000 pounds of wool."

MR. M'ILLAN MAKES SARCASTIC COMMENTS.

Mr. Justice presented elaborate tables showing variations in the production and prices of wool in different countries, illustrating among other points that American wools had fallen in price under free trade and Australian wools had risen. The percentage of sheep east of the Mississippi in 1870 was 71, and to-day 33 per cent. No farm would be done the American business if wools costing under 10 cents were admitted free, for these never would be raised profitably in the United States.

In the course of his statement Mr. Justice said that Mr. McKinley had told the wool-growers and manufacturers that if they would agree unanimously upon a schedule he would accept it. Accordingly the schedule had been framed by a convention of representative manufacturers and growers, and both had prospered under it.

(Continued on second page.)

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78TH YEAR.

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colis."—VING.

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THE MARK LANE EXPRESS, which is
the highest authority in the world on
the grain trade, estimates that Great
Britain will require this year about
250,000,000 bushels of wheat, of which
she will raise about 56,000,000 bushels,
leaving 194,000,000 bushels to be sup-
plied from abroad. Other wheat-im-
porting countries will want enough to
make this up to 385,000,000 bushels,
and it is not clear where this is to come
from. It is not believed that the United
States, Canada, Russia, Argentina, and
Australia, and other wheat exporters
can supply more than 346,000,000
bushels, leaving the world about 50-
600,000 bushels short. It confesses that
the prospect points to high-priced bread.
Let the Europeans buy more of our
corn.

Up to the first of this year shipments
of apples from Atlantic ports were up-
wards of 2,175,000 barrels. The bulk
of these went to British consumers, only
about 3,000 barrels being sent to other
countries. These enormous exports
have been quite disastrous to British
markets. Supplies at ports of entry
have been so heavy and prices so low
that exporters lost heavily on shipments
made late in the year. During the glut
American apples sold very low, one
Glasgow firm reporting large quantities
sold at from one to four shillings, or 25
cents to \$1, per barrel. Considering
the quality of the fruit exported these
prices are much lower than the market
prices on this side of the water.

THERE is a revival of interest in mo-
hair. This is not only in California,
Texas and other States, where the rais-
ing of goats has become quite an in-
dustry, but also in New England and
the Interior States. It is expected
that 100 fine Angora goats of the very
best blood will be imported from South
Africa this season and distributed
among the goat-raisers.

JUSTICE, BATEMAN & Co. say about
wool duties:

"In our opinion, no schedule could be
more scientific in the theory of its construc-
tion than is Schedule K of the law of '90,
which, barring some slight changes required
to suit changed business conditions, should be
re-enacted. Under the two tariff laws of '67
and '80 American stocks increased more
rapidly than those of any other nation. If
the law of '90 had continued, and the sheep
had increased at the same rate for the next
20 years, the wool clip of the United States
by this time would have supplied the quantity
now consumed here."

The great increase in the importation
of American apples into Germany has
led the Agrarian newspapers to agitate
in favor of the Government taking
measures to prohibit further imports,
alleging that sources of disease have
been discovered in recent importations
of the fruit.

A NEW OLEOMARGARINE BILL.

Jan. 14 the House of Representatives

passed, by a vote of 126 to 96, a bill

introduced by Representative Groat, of

New Hampshire, to subject oleomargarine

and other counterfeits of dairy prod-
ucts to the laws of the States into

which they may be transported. The
full text of the bill is as follows:

That all articles known as oleomargarine,
butterine, imitation butter or imitation
cheese, or any substance in the semblance
of butter or cheese, for the usual product of
the dairy and not made exclusively of pure
and unadulterated milk or cream, transported
into any State or Territory, or remaining
therein for use, consumption, sale or storage
therein, shall upon arrival in such State or
Territory be subject to the operation and
effect of the laws of such State or Territory
enacted in the exercise of its police powers to
the same extent and in the same manner as
though such articles or substances had been
produced in such State or Territory, and shall
not be exempt therefrom by reason of being
introduced therein in original packages or
otherwise: Provided, that nothing in this act
shall be construed to permit any State to for-
bid the sale of oleomargarine except in such
a manner as will advise the customer of its
real character.

The House spent almost the entire
day in an animated discussion of the
bill. The advocates of the measure
argued that the States should be allowed
to regulate the sale of a product
sailing under false colors, and its oppo-
nents that the bill would establish a
dangerous precedent and invade the
power of Congress to regulate interstate
commerce.

Those who supported the measure
were: Messrs. Northway (R.), of Ohio;
Morse (R.), of Massachusetts; Lacy
(R.), of Iowa; Hainer (R.), of Ne-
braska; Willis (R.), of Delaware;
Grosvenor (R.), of Ohio, and Hen-
derson (R.), of Iowa. Those who
opposed it were: Messrs. Cooper (D.),
of Florida; Tucker (D.), of Virginia;
Cannon (R.), of Illinois; Boatner (D.),
of Louisiana; Clardy (R.), of Ken-
tucky, and Williams (D.), of Missis-
sippi.

FORMULATING THE TARIFF.

The Ways and Means Committee of
the House of Representatives have been
hard at work for some weeks formulating
a Tariff Bill for the next House. For-
tunately for this work, all the members
of the present Committee were elected to
the next Congress, so that they could
begin the work with entire propriety.
Still more fortunately for the country,
the majority of the Committee is made
up of the ablest and most experienced
men in the country on tariff questions.
At their head is ex-Gov. Dingley, of
Maine, who has probably no equal any-
where in his wide range of exact infor-
mation upon tariff and finance. Such
men as Dingley, Serrano E. Payne, Dal-
zell, Hopkins, Grosvenor, Russell, Dol-
liver, Steele, Johnson of North Dakota,
and Walter Evans, are earnest, prac-
tical business men, who represent
business communities and active pro-
gressive interests. They are not mere
phrase-makers, to gull the ignorant, but
men of every-day knowledge and the
widest possible contrast to the charlatans
and blatant demagogues who constituted
the majority of the Committee which
formulated the Wilson Iniquity.

Strongly contrasting with the dark-
lantern, locked-door secrecy of the
Wilson proceedings, they have held their
meetings openly, invited all who wanted
to be heard, and sought information
from every source. We give up much
of our space this month to a hearing of
those who represented wool and other
agricultural products.

While there has been little discussion
of the general character of the measure,
two or three underlying principles are
understood. There is no question but
that specific rates will be levied wherever
possible. The bounty scheme, it is
understood, will be abandoned, with
adequate duty on sugar. The principle
of free raw materials will be disregarded.
Wool is considered by the Republicans
as the farmers' finished product, which
should be protected as the manufacturers'
products are, and lumber is also regarded
as quite as deserving of protection as
other articles in which labor is a large
element of cost.

A prominent member of the Com-
mittee has given this out:

"The committee is preparing an inde-
pendent tariff bill, based on present con-
ditions of business and present necessities
for revenue, and on the experience of the
past. It will not be the McKinley bill.
Rates of former acts which appear to be
consistent with present conditions will be
retained or re-incorporated in the bill, but
business conditions have changed in many
lines in recent years, and the present conditions
will be the first factor considered. When the
bill is finished and an average of rates struck
it will be below the McKinley bill. The Re-
publicans are not unmindful of the fact that
they are under obligations to those Demo-
crats who were their allies on the financial
issue in the campaign. Where some deference
to their wishes for low tariff rates is
justified by the conditions their views will
receive consideration."

"As for the demands of special interests,
the committee will not take any statements
by interested parties for granted. In carry-
ing the principal of protection into effect we

WHAT THE GRANGE WANTS.

At the meeting of Illinois Grange,
at Springfield, Dec. 8-10, resolutions
were adopted as follows:

In favor of a graded land and in-
come tax; to exempt the farmer's tools
and \$500 worth of household goods
from taxes or seizure for debt; to so
equalize assessments that farmers will
not be unduly taxed; in favor of
Woman's Suffrage; against a single gold
standard, or retiring the Treasury notes,
unless through a reissue in full legal ten-
der form; in favor of a legal width of four
inches or more for wagon tires after 1900;
for postal savings banks and free rural
mail delivery; for a law that railway
companies must weigh and receipt for
car loads of grain, and deliver the same
weight; to lower the legal weight of a
bushel of ear corn from 70 to 68 pounds;
a law to prevent option gambling in
grain; for a law against railway com-
panies issuing, or public officials receiv-
ing free, passes; for a State law reduc-
ing passenger rates from three to two
cents per mile; in favor of submitting
new laws to a vote of the people.

SHEEP-RAISING ON THE PACIFIC
COAST.

The sheep-raisers all over the Pacific
Coast feel their hearts rising rapidly
since the election. The bugbear of de-
based money has been emphatically set-
tled. There will be no juggling with the
dollar for the benefit of speculators and
mine owners, to the great injury of farm-
ers and other producers. Protection will
be restored to wool as soon as Congress
can reach the matter, and it will make
no delay. The production of wool in
Australia and South Africa and South
America has received a severe check,
similar to that which our wheat-growing
has sustained, but more lasting.

It is apparent that sheep can be raised
over large sections of the Pacific Slope
more advantageously than in the com-
peting countries. No more cut-throat
legislation need be feared for years to
come. Sheep-growing in this country
has seen its worst days, and everything
looks bright for the future. Those who
have been able to tide over the last four
disastrous years, and save at least a por-
tion of their flocks, can now confidently
hope for a season of substantial pros-
perity. Sheep will be in demand, and
sheep-owners will see the value of their
flocks enhance even more rapidly than
they depreciated after 1892.

Our urgent advice to sheep-owners
everywhere is to hold on to every good
sheep they have with a firm grasp. Of
course, a poor sheep ought to be gotten
rid of as soon as possible, but a flock of
fairly good sheep is a better investment
than gold-interest bonds.

CAREFUL computation shows that the
seeds sent out by the Department of
Agriculture during the year 1896 would
have planted 21,038 acres of cabbage,
10,768 acres of lettuce, 10,712 acres of
tomatoes, and other garden vegetables in
proportionally large areas. Briefly, the
seed gratuitously sent about the country
would have planted more than 115
square miles of garden. In other words,
it would have planted a strip of ground
one rod in width and 36,817 miles in
length. Such a strip would reach one
and one-half times around the globe,
and a passenger train going at the rate
of 60 miles an hour would require 51
days 3 hours and 14 minutes to travel
from one end of this gratuitously seeded
truck patch to the other. Each Con-
gressional quota contained seed enough
to plant more than 168 1/2 acres.

AHEL F. STEVENS told the Massachu-
setts farmers:

The great need of our horticulture in
all its departments is brains—for the
practical, progressive cultivator of to-
day must be a man of broad education.
He needs to know in a general way, in a
specific way the chemical elements of the
soil, fertilizers and fruits. He there-
fore should understand chemistry. He
needs to know the structure of plants,
their anatomy and physiological func-
tions, and should be a close student of bot-
any, the science of plant life. He needs
to know the habits of those insects which
prey on his trees, and how to destroy
them; as well should he know those
insects that are aiding him in his labors.
So he must have a knowledge of ento-
mology.

In short, there is no employment on
earth which calls for men with more
broadly cultivated minds than the pro-
fession of horticulture. In fact, our
agriculture will never take the high
rank it should until men everywhere
recognize it as the most learned of all
the learned professions, and as that
vocation upon the success of which de-
pends the whole fabric of human society.

SUGAR-BEETS.

Our farmers cannot think too much
of the sugar-beet. It has unlimited
possibilities for them. Our people are
the greatest sugar-eaters in the world, and
we buy every year somewhere between
\$140,000,000 and \$150,000,000 worth
of sugar and molasses. The sugar-beet
can be raised wherever wheat is. Our
Consul at Havre writes:

The crop pays the farmer better than
wheat or any other agricultural product,
and hence a large acreage is under beets.
In 1894 the area was 1,700,000 acres,
and the production nearly 18,500,000
tons, or nearly 11 tons to the acre; 50
to 60 per cent. of all this is used for the
production of sugar. The experience of
French cultivators is stated to be that
the cost of growing an acre of beets is \$2,
omitting the cost of fertilizing, which it
is not always necessary to employ. It is
said, too, that the leaves and stalks left
on the field will furnish much more
manure, after they have been fed to
cattle, than the beet requires. The bounty
paid on sugar exported from
Germany has led to less activity in beet-
sugar production in France in the last
two years. Nevertheless, the total
quantity exported in 1894-95 was
186,287 tons, of which 119,139 tons went
to England.

The advantage of beet cultivation is
that there is no waste; every part of the
vegetable can be used in one way or an-
other. The pulp, after the juice has
been expressed for sugar, is largely
eaten by cattle, and is found to be very
nourishing. The leaves and stalks, when
fresh, increase a cow's milk; when dry
they afford excellent winter food.

"Altogether, the beetroot or the residue
after the juice has been expressed, sup-
plies, with the leaves and stalks, nourish-
ment for cattle and sheep more abun-
dant, perhaps, than any other forage that
could have been cultivated on the land."

It is said that the leaves are frequently
used for adulterating tobacco.

The French experience is that all
lands suitable for growing wheat will
also grow beets; but it is necessary to
avoid a soil too compact or containing
too much clay. The report enters into
some detail in the question of soil, pos-
ition, manuring (when necessary), modes
of cultivation, harvesting and preserving
the crop, and a few words are added as
to the manufacture of sugar. Some-
thing is said, also, of experiments being
made in France, under the authority of
the Ministry of Commerce, for obtain-
ing illuminating alcohol from the roots.

An Indiana man writes that he bought
five cents' worth of chicory seed, and
from it obtained four bushels of roots.
He hardly knew what to do with them,
but decided to wash them carefully and
slice them into thin strips. He then
put them into a box used for drying
heading timber. In three days they
were as dry as powder. He then ran
them through a hand bone-mill, which
took him about 15 minutes. He had
over a bushel of chicory meal. This his
wife roasts in the oven the same as green
coffee, only it does not take quite so long.
She uses it in the proportion of two
parts of chicory to one of coffee, and the
difference cannot be told. The only
objection is the tendency to open the
bowels. The main difficulty is in
thoroughly drying. His five cents' worth
of seed have given him enough chicory
to last five years.

MR. NIKOLA TESLA, the electrical
expert and inventor, has recently sug-
gested the possibility of employing
electricity as a fertilizing agent for the
soil. The currents produced by per-
fected electrical oscillators, he says, are
capable of causing the chemical com-
bination of the nitrogen with the oxygen
of the atmosphere. If this combination
were carried on upon an industrial scale,
which he thinks is possible, then the
product could be used as a fertilizer, and
in his opinion the benefits to humanity
would be incalculable.

THE fact that 146,000 Mexican cat-
tle were imported last year points very
strongly to the need of adequate protec-
tion. The old rate of duty was \$10 per
head, but the Wilson Iniquity substi-
tuted a rate of 20 per cent. ad valorem,
which came near being no duty, since
the value was placed at the lowest fig-
ures that the consciences of the import-
ers—and their consciences are very elas-
tic—would permit.

FOREST leaves contain upon the aver-
age, at a rough estimate, some \$2 worth
of fertilizing material per ton, beside
the value of the valuable mold they will
make. They are well worth the trouble
of gathering and hauling, whenever there
is nothing more important to be done.

THE tendency toward small hogs is
not so great as many people imagine.
The average weight of the 7,700,000
hogs received at Chicago in 1896 was
246 pounds, against 230 in 1895.

THE New Jersey Grange does not be-
lieve in giving tobacco to the convicts
in the penitentiary. Part of their pun-
ishment, it thinks, should be a depriva-
tion of such luxuries.

THE SPANIARD FROM THE PHILIPPINES

show that the Spaniard has not changed since
the days of Cortez, Pizarro, Torquemada,
the Inquisition, of Mexican Kings broiled
on coals to force them to give up their
gold, of Peruvian Incas betrayed and
murdered, and of Jews tortured into sur-
rendering their wealth. It seems that
wherever there is a rich resident of the
Philippines found he is accused of com-
plicity with the rebellion, and tortured
until his wealth passes to the hands
of the officers of the Spanish troops.

It is claimed that the instruments and
devices of the ancient Inquisition are
employed in this. Naturally, the re-
bellion is not suppressed, but the Spanish
commanders are getting very rich.

PERSONAL.

The Commander of the Salvation
Army has requested us to announce that
this organization offers its services to
trace lost or missing friends in all parts
of the world. Letters should be ad-
dressed to the Inquiry Department, 122
West Fourteenth street, New York
City.

Mr. Louis V. Urmy, an advertising
agent in New York City, has sent us a
tastefully-designed calendar for 1897.
We understand he sends it free upon
application.

Messrs. Greening Brothers, of Monroe,
Mich., have issued an illustrated nursery
catalog that contains much valuable in-
formation relating to planting, spraying,
and culture of trees, and the handling of
fruit products. Prof. S. R. Taft, of the
Michigan Horticultural Department, and
the Hon. T. L. Lyon have edited the
work, and vouch for its accuracy.

Mr. Prescott F. Hall, Secretary of the
Immigration Restriction League, has
sent out an address, by which he demon-
strates that the question of illiteracy
has little or no political bearing, since
at the late election the States into which
the Latin and Slav peoples go were not
pivotal. The races named contribute
most largely to our immigration, recently,
Italians, Russians and Austro-Hungari-
ans making up about one-half of the
whole, and of these over 52 per cent.
cannot read or write. It so happens that
in the late election these people cut lit-
tle figure, because they are settled mostly
in States where the majority for the suc-
cessful candidate was overwhelming; but
this fact was merely a fortunate accident,
and should have no influence upon Con-
gressional action.

The Agricultural College at the Mis-
souri State University is offering two
practical short courses, one for the farmer
and stock breeder, the other for the hor-
ticulturist, both beginning Jan. 5, 1897,
and continuing 12 weeks. No tuition is
charged. These courses deal exclusively
with the practical phases of agriculture,
dairying, and horticulture, and cover the
subjects of breeding, feeding, and judg-
ing live-stock, butter and cheese-making,
crop growing, veterinary science, manures
and fertilizers, drainage, orcharding,
small-fruit growing, market gardening,
methods of combating injurious insects
and destructive diseases of the orchard and
field crops, and training in carpentry and
blacksmithing. Even experienced and
successful farmers and horticulturists will
find many things of great value to them
in these courses. This instruction, how-
ever, is of incomparably greater value to
the young man just starting out. It will
prove a tremendous stimulus to every
farmer in Missouri who can avail him-
self of this instruction. The man who is
to be successful in farming in the future
must have precisely this information, and
it can be secured very much cheaper and
easier and better at the Agricultural Col-
lege this winter than on the farm through
expensive and painful experience. Don't
neglect this opportunity to post yourself
on the best and most approved modern
methods of farming and gardening.
Write to Dean H. J. Waters, at Colum-
bia, for an illustrated pamphlet describ-
ing these courses, and begin your prepara-
tions at once.

The following officers have been
elected to the New Jersey Board of
Agriculture: President, D. D. Denise,
Freehold; Vice-President, E. B. Voor-
hees, New Brunswick; Secretary,
Franklin Dye, Trenton; Treasurer,
William R. Lippincott, Fellowship.
Executive Committee, Dr. Joseph B.
Ward, Lyons Farm; Theodore E. D.
Baker, Bridgeton, and Henry F.
Bodine, Locktown.

Tuberculosis in New Jersey.

In his report to the New Jersey Board
of Agriculture for the year ended Jan.
10, Franklin Dye said that tuberculosis
was on the increase among the cattle
throughout the State. The greater dan-
ger to human health comes from milk of
the cow affected with tuberculosis, and
there are many diseased animals among
the dairies of the State. Old, worn-out
cows affected with the disease were heretofore
sold to butchers and their meat placed
upon the market. While a few of such
cows are still sold in violation of the law,
the commission slaughtered a number of
them in the course of a year.

The fact that there are meats and
milk for market which are seriously, if
not dangerously, affected with the dis-
ease, has led to the demand for some
system of legal investigation of dairy
animals in order to protect consumers.
It is along these lines that this Commis-
sion, in co-operation with the State Board
of Health and the State Dairy Commis-
sion, is directing its efforts. The number
of cases examined during the year was
1,200. The Commission recommends a
law requiring a regular examination of
all dairy herds in the State.

The Board decided to ask the Legisla-
ture for an appropriation of \$10,000 to
continue the work.

FARMER'S HANDY WAGON.



Has 6-inch tires and bolsters 30 inches from the ground; especially useful on
soft ground, and for bulky loads like fodder, hay, etc.

THE MARKETS.

Produce.

Beef—Steady.

Corn—Firm; picked bellies, 44¢.

Lard—Higher; Western steamed, 42¢; Jan-
uary, 43¢ nominal; refined, higher; Continent,
43¢; South American, 43¢; compound, 43¢.

Pork—Dull; mess, 8.50¢.

Cotton Seed Oil—Firm; each the strength in
lard products; buyers show disposition to op-
erate.

Butter—Firm; Western creamery, 13a; 9¢;
factory, 9a; 10¢; 11a; 12a; 13a; 14a; 15a; 16a;
State dairy, 10a; 11a; 12a; 13a; 14a; 15a;
Creamery, 10a; 11a; 12a; 13a; 14a; 15a;
Skims, 10a; 11a; 12a; 13a; 14a; 15a;
Western fresh, 13a; 14a; 15a; 16a; 17a; 18a; 19a; 20a; 21a; 22a; 23a; 24a; 25a; 26a; 27a; 28a; 29a; 30a; 31a; 32a; 33a; 34a; 35a; 36a; 37a; 38a; 39a; 40a; 41a; 42a; 43a; 44a; 45a; 46a; 47a; 48a; 49a; 50a; 51a; 52a; 53a; 54a; 55a; 56a; 57a; 58a; 59a; 60a; 61a; 62a; 63a; 64a; 65a; 66a; 67a; 68a; 69a; 70a; 71a; 72a; 73a; 74a; 75a; 76a; 77a; 78a; 79a; 80a; 81a; 82a; 83a; 84a; 85a; 86a; 87a; 88a; 89a; 90a; 91a; 92a; 93a; 94a; 95a; 96a; 97a; 98a; 99a; 100a; 101a; 102a; 103a; 104a; 105a; 106a; 107a; 108a; 109a; 110a; 111a; 112a; 113a; 114a; 115a; 116a; 117a; 118a; 119a; 120a; 121a; 122a; 123a; 124a; 125a; 126a; 127a; 128a; 129a; 130a; 131a; 132a; 133a; 134a; 135a; 136a; 137a; 138a; 139a; 140a; 141a; 142a; 143a; 144a; 145a; 146a; 147a; 148a; 149a; 150a; 151a; 152a; 153a; 154a; 155a; 156a; 157a; 158a; 159a; 160a; 161a; 162a; 163a; 164a; 165a; 166a; 167a; 168a; 169a; 170a; 171a; 172a; 173a; 174a; 175a; 176a; 177a; 178a; 179a; 180a; 181a; 182a; 183a; 184a; 185a; 186a; 187a; 188a; 189a; 190a; 191a; 192a; 193a; 194a; 195a; 196a; 197a; 198a; 199a; 200a; 201a; 202a; 203a; 204a; 205a; 206a; 207a; 208a; 209a; 210a; 211a; 212a; 213a; 214a; 215a; 216a; 217a; 218a; 219a; 220a; 221a; 222a; 223a; 224a; 225a; 226a; 227a; 228a; 229a; 230a; 231a; 232a; 233a; 234a; 235a; 236a; 237a; 238a; 239a; 240a; 241a; 242a; 243a; 244a; 245a; 246a; 247a; 248a; 249a; 250a; 251a; 252a; 253a; 254a; 255a; 256a; 257a; 258a; 259a; 260a; 261a; 262a; 263a; 264a; 265a; 266a; 267a; 268a; 269a; 270a; 271a; 272a; 273a; 274a; 275a; 276a; 277a; 278a; 279a; 280a; 281a; 282a; 283a; 284a; 285a; 286a; 287a; 288a; 289a; 290a; 291a; 292a; 293a; 294a; 295a; 296a; 297a; 298a; 299a; 300a; 301a; 302a; 303a; 304a; 305a; 306a; 307a; 308a; 309a; 310a; 311a; 312a; 313a; 314a; 315a; 316a; 317a; 318a; 319a; 320a; 321a; 322a; 323a; 324a; 325a; 326a; 327a; 328a; 329a; 330a; 331a; 332a; 333a; 334a; 335a; 336a; 337a; 338a; 339a; 340a; 341a; 342a; 343a; 344a; 345a; 346a; 347a; 348a; 349a; 350a; 351a; 352a; 353a; 354a; 355a; 356a; 357a; 358a; 359a; 360a; 361a; 362a; 363a; 364a; 365a; 366a; 367a; 368a; 369a; 370a; 371a; 372a; 373a; 374a; 375a; 376a; 377a; 378a; 379a; 380a; 381a; 382a; 383a; 384a; 385a; 386a; 387a; 388a; 389a; 390a; 391a; 392a; 393a; 394a; 395a; 396a; 397

THE GARDEN.

THAYER'S BERRY BULLETIN

For January, 1897.

The farmer's berry garden should be decided upon now. Let the following months be given to reading good farm and horticultural papers.

Be prepared to adopt the valuable practical advice they are sure to give you.

Mature plans for the season, select your plants, order them early, and let this be your first work in the Spring.

One quarter acre of good land, set with proper varieties and well cultivated, should produce from 20 to 40 bushels of nice berries every season.

This would give an ordinary family fresh berries every day in season and a liberal supply canned, preserved and dried during the entire year.

Plants for such a garden may be purchased direct from a reliable grower for \$10 or \$15, and should include the following varieties:

- 300 strawberry plants, early, medium, and late.
- 100 blackberry plants, early and late.
- 50 black raspberry plants, early and late.
- 50 red raspberry plants, early and late.
- 75 currants, red and white, early and late.
- 25 gooseberries, early and late.
- 18 grapes, three varieties, early.

Multiply this list by four for one acre, or by 20 for five acres, and you have the right proportion for a continuous supply of different varieties for market purposes.

Good berries may be grown on any soil—sand, clay, muck, loam, gravel, or a combination of each, provided the same be highly fertilized, well drained, and thoroughly cultivated.

Early fruits are usually most desirable, and light soils with southern exposure are best adapted for that purpose. Light soils, however, require heavy fertilizing, more mulch in Summer, are more liable to injury by drouth, and produce lighter crops.

Clay soil must be well drained, is more difficult to prepare, matures later crops, and not so favorable for Winter protection.

The ideal berry ground would be, 1st, a rich, sandy loam with clay subsoil; 2d, a dark loam or gravelly loam mixed slightly with clay, and a clay subsoil, all having a southerly or easterly slope.

Any of these mixed soils will make good berry gardens by applying good barnyard manure, which contains all the essential elements required. When such manure cannot be obtained, then commercial fertilizers rich in nitrogen and potash should be applied.

Avoid low, flat land, unless under-drained; it is unusually cold, late, and more subject to frosts.

Avoid steep hill-sides as being more subject to drouth and wash of soil by severe rains.

Very few farms are without suitable soil and location for a good berry garden, and that farmer who simply exists, year after year, without a good garden, has not learned the first principles of good living.

An Important Point in Strawberry Culture.

It is all-important that a strawberry grower should plant varieties that ripen in succession from the very earliest to mid-season, or in many cases very late, because it enables him to sell at a profit a great many more. For if his market be a small and limited one he is thus enabled to supply it through seven or eight weeks. If his market is large and unlimited, like the great Northern ones, and his acreage is limited solely by the size of his picking force, it enables him to pick more than twice as much.

Thirteen years' experience, during which I have treated many hundreds of varieties, has convinced me that the following are best:

For extremely early, Improved Westbrook and Murray's Extra Early polonized with Meek's Early every fourth row. These are not only prolific but the earliest, the most splendidly colored and the finest and best shippers I ever saw. They ripen so early that they can be picked and sold before medium-early varieties begin to ripen at all.

To follow close on the heels of these I should have Brandywine, Tennessee Profic, Woolworth, West Lawn and Bubach; pollenizing the Bubach and West Lawn with one of the three preceding varieties. These are all superb market varieties and heavy bearers.

Then, to come next, Aroma and Gaudy will give a large crop of the finest late berries.

The season can be still further prolonged by having the Lucretia dewberry, which ripens just as strawberries are gone, and is an exceedingly heavy bearer of large, luscious berries. It succeeds everywhere. If growers will follow the plan above outlined they can plant a large acreage and still never have their berries to spoil in fields for lack of pickers. Nor will the markets be swamped by a glut of berries all ripening at one time.—C. W. BLACKWELL, Kittrell, N. C.

The New York Experiment Station recommends for controlling the spinach leaf maggot clear cultivation, destroying all plants of lamb's-quarters, combined with late Fall or early Spring plowing of old spinach and beet fields to so bury the pupating insects that it will be impossible for them to emerge. This plowing should be deep and preferably followed by rolling of the ground.

A NEW CABBAGE PEST.

Another Undesirable European Immigrant.

The cabbage maggot, the larval form of a fly, *anthomyia brassicae*, is the most destructive pest of the cabbage in Europe, where it sometimes destroys whole fields of young plants. It has been occasionally troublesome in the United States since 1846. It has the past Spring appeared in alarming numbers in a portion of the trucking section of this State.

The fly is slender and gray colored, rather smaller than the common house-fly. The female lays her eggs in early Spring on the roots or stem of young plants, both in the seedbed and field. The eggs hatch out in about five days. The maggots eat off the young rootlets, producing what is often called "club-foot"; they also bore into the larger roots and stems, causing the plants to turn yellow and soon after die, or remain as stunted plants which refuse to head. The flies continue to breed all the Summer and pass the Winter as dormant pupa in the hollow stems of cabbage and stumps if left in the field. Some of the winged insects also hide away in cellars and places where cabbage is stored, but the greater portion of the first brood of flies come from the dormant pupa in the field. The maggots feed by preference upon the roots of cabbage and other cruciferous plants—collards, kale, cauliflower, radish, mustard, etc., but they breed also in stable-manure piles, human excrement and rotten fish.

REMEDIES.

The first and most essential remedy is to clean cabbage fields thoroughly of stumps. Either plow these under at least six inches deep and then roll the ground, or gather the stumps and compost them with lime. Never follow cabbage by the same crop on any field. If the maggots appear on plants in the seed bed, apply a good dressing of lime or muriate of potash to the soil, or sufficient kerosene emulsion to wet the ground one inch deep. If plants in the field are attacked take a dibber or sharp stick and make a hole near each plant as deep as the roots of the plant and about one inch in diameter. Fill this hole with kerosene emulsion. If the emulsion does not wet the soil on all sides of the plant, make and fill another hole on opposite side. Usually one treatment will be sufficient for each crop, but if neighboring fields are left untreated they will breed flies so fast that a second treatment may be necessary after 10 days. The emulsion must be thoroughly made. But it will be safe in any case if it is not allowed to touch the leaves of the young plants.

THE KEROSENE EMULSION.

Hard soap, one-half pound.
Water, one gallon.
Kerosene oil, one gallon.
DIRECTIONS.—Shave the soap and boil till all dissolved in the water. Remove from the fire and pour into the kerosene. Churn this or pass it through a sprayer or syringe until it becomes a thick cream and the oil does not separate from the soap. Dilute with nine times its bulk of cold water before using. This remedy is equally as good for the onion maggot, cut worms and all other burrowing insects. When thoroughly made it will not burn the plants, but if any free oil rises to the top it will burn.—Gerald McCarthy, Entomologist, N. C. Experiment Station.

Tomatoes.

The West Virginia Station finds by a comparison of methods of training tomato plants that those plants supported on brush, over which they were allowed to fall at will, gave the greatest yield, while the earliest fruit was obtained from plants trained on a trellis made of barrel hoops fastened to stakes.

The Michigan Station has been testing fertilizers. The variety employed was Ignatum, and 20 plants were set in each plot. The largest yield, 352½ pounds, was obtained from a plot to which three pounds of dissolved bone had been applied, but as the next largest yield, 309½ pounds, was obtained from an unfertilized plot, the result is believed to be inconclusive.

In an experiment in irrigating three rows of tomatoes, each by a different method, the rows so treated gave a larger yield than check rows not supplied with water, but the best method of irrigation was not decided upon.

Clean Up and Plow the Garden.

A garden cleaned up and plowed in the Fall is in better condition for planting in the Spring, and it is rarely infested with cut-worms. Indeed, during the past 25 years we have not failed to plow the garden in the Fall and we have rarely had a plant cut off by a cut-worm. We also never fail to turn over in the Fall land on which we expect to plant the Spring small fruits, tree or shrub seeds, or root grafts. With this care little if any damage is done by cut-worms. But it has happened that not quite enough plowing was done in the Fall. In every case the part planted in the Spring plowing suffered from cut-worms, and plum seedlings were totally destroyed.—Prof. Budd.

Scott's Emulsion

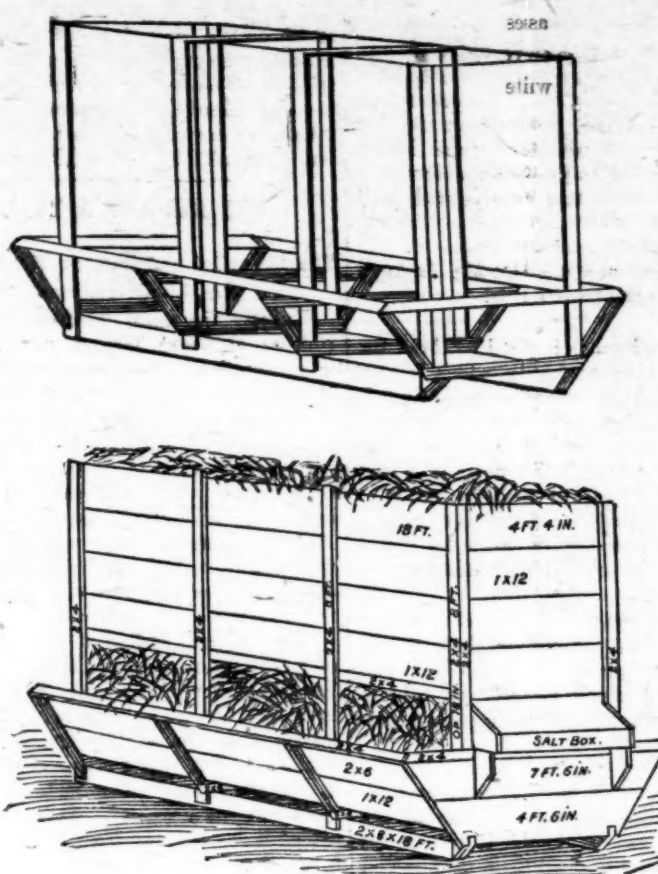
looks like cream
flows like cream
tastes almost like cream

It feeds your strength as cream would feed it if you could assimilate it. You can assimilate Scott's Emulsion.

POTATOES.

Results of Experiments at Different Stations.

The Kansas Station finds that the yield where crimson clover was plowed under showed an increase of 34.4 bushels per acre, or 50 per cent. With distance



PORTABLE FEED RACK.

30 by 14 inches there was an average gain for two years of 19 bushels per acre over 36 by 12 inches. Practically the same results were given by ridge and level culture and by deep and shallow cultivation. The yields showed a gain of 86 per cent. where the plants were sprayed with Bordeaux mixture.

The Missouri Station concludes that 900 pounds per acre was the limit of profitable application of fertilizers, and that "it makes no difference whatever whether potatoes are planted whole or in pieces. The result depends entirely upon the fertility of the soil and the character of the season, both of which determine the stand of the crop as a whole, as also the productiveness of each individual plant."

"The size of the seed potato has nothing to do with the greater or less number of small potatoes. It is simply a question of the vigor of the plants, the richness of the soil, and the proper condition of the season."

The Minnesota Station finds that among the largest yields per acre are the following: At the Station farm, Rural New Yorker No. 2, 388 bushels; Lee Favorite, 349 bushels; Early Everett, 343 bushels; Early Oxford, 328 bushels; and Irish Cobbler, 325 bushels; in Lyon County, World's Fair, 551 bushels; American Wonder, 528 bushels; Irish Daisy, 510 bushels; Early Oxford, 470 bushels; and Pearl of Savoy, 467 bushels. In McLeod County the highest yield was given by Summit, 227 bushels.

PLANTING POTATOES.

A French Professor Has Been Experimenting in Planting Potatoes.

The following methods were compared: (1) Potatoes, large and small, were cut into pieces weighing 14 to 40 gm., with one or two eyes to the piece, and the cuttings planted 10 cm. (about four inches) apart in the row; (2) whole tubers of medium size were planted 50 cm. (about 20 inches) apart in the row; and (3) small whole tubers weighing 20 to 40 gm. were planted at 10 cm. in the row. In all cases the rows were 60 cm. (about two feet) apart. The preparation of the soil, the manure, the depth of planting, and the cultivation were the same as in the ordinary methods.

The results of experiments at the station and of co-operative experiments of a similar character in different parts of France are tabulated and discussed. The author states that the largest yield was produced by the small tubers planted closely, a gain of 45 per cent. over the yield of medium tubers at 50 cm. in the row. Aside from this the largest yield with each of the eight varieties tested was produced by the one-eye pieces.

The cuttings gave a profit with all the varieties except one. The largest profit came from the small tubers closely planted, the gain over medium-sized tubers being valued at 633 francs per hectare.

In conclusion, the author recommends a trial of the method of planting one and two-eye pieces at 10 cm. distance, in comparison with the regular methods.

Fertilizers on Wheat.

The Virginia Station concludes that phosphoric acid gives an increase in proportion to the quantity applied up to 213½ pounds per acre, and nitrogen and potash seem to increase the product only when both are used in combination with phosphoric acid.

A Portable Feed Rack.

The two illustrations show a portable feeding rack found very satisfactory during four years' use on the well-known "Sunny Slope" stock farm of Mr. H. C. Cross, Emporia, Kan. These are made in 16- and 18-foot lengths, but the latter is preferred, and hold a half

REGULATING FERTILIZERS.

Wisconsin Law Which Went into Effect Dec. 1, 1895.

The principal provisions of the law are as follows: All goods selling for \$10 or more per ton are subject to the law; each package must bear besides the usual statement of weight, name of brand, name of manufacturer, etc., a guaranty of the percentage of nitrogen in an available form, the percentage of potash soluble in water, and the percentage of available phosphoric acid, soluble and reprecipitated, as well as total phosphoric acid; a sealed sample of not less than one pound sworn to "correspond within reasonable limits to the fertilizers which it represents," and accompanied by a copy of the statements to be used on each package is to be sent to the Director of the Wisconsin Experiment Station between Dec. 1 and 31, who is to analyze these samples, and report the results in a station publication on or before April 1 following; the Director's certificate of compliance with the provisions of the law constitutes a license for sale, and for this the manufacturer or dealer must pay into the station treasury an annual fee of \$25 for each brand put on the market. The sale of additional brands may be provided for during the year by filing samples, affidavits, etc., as above, one month before the fertilizers are put on the market, and by paying a fee of \$50. The Director, or his deputy, is authorized to take samples, under the usual restrictions, of any fertilizers offered for sale in the State, and to analyze them and report the results; and he is also duly empowered to enforce the provisions of the act and prosecute violations of the same.

KAFFIR CORN.

The Kansas Station Reports the Results of Several Years of Experiments with Kaffir Corn.

The largest yield so far obtained was in 1891 with red Kaffir corn, 98.7 bushels of seed, and 12,229 tons of fodder per acre.

On 48 trial plots the rows varied from 16 to 32 inches and the plants from 4 to 8 inches in the row. The largest yield of grain was obtained with plants 4 inches apart in 32-inch rows. Experiments have shown that when corn and nearly all other crops are complete failures, Kaffir corn will yield a fair crop of forage.

Red is preferred to white; it grows 6 to 9 inches taller, ripens earlier, does not shell in handling, has a juicier stalk, and the head always pushes clear of the upper sheath. The seed of white Kaffir corn is liked better by stock. The black-hulled white has been grown the past season only. It is very promising, and may surpass the red.

It is adapted to all soils, and to regions too dry for corn.

Chicory Culture.

Several correspondents have written to us for directions as to the culture of chicory, where to get the seed, and as to the suitable climate in which to grow it. The plant is first cousin to the dandelion, and will grow in any soil or climate where dandelions flourish. It is the most widely used and the best substitute for coffee known. It contains no deleterious agents and is not a stimulant, and thus is used by many who cannot drink coffee. It contains starch and sugar, and is a moderate laxative. It is used by coffee roasters generally, to cheapen the coffee, and in all French coffee it is found, the people of that country having acquired a taste for it. In many parts of Europe it is extensively grown for domestic use, like any other kitchen garden plant.

Last year we imported into the United States 12,000,000 pounds, or about a million pounds a month. The root is

Joys of Maternity

Why So Many Women Are Childless.
A Problem That Has Puzzled Physicians for Centuries.



Such frank, straightforward testimony as this should dispel all doubt. If you are ill, you owe yourself the chance that the compound will cure you.

LYDIA E. PINKHAM MED. CO.,
Lynn, Mass.



REPRODUCTION is a law of nature, and no picture of joy and happiness can equal that of the vigorous mother and her sturdy child. Nature makes but few mistakes, and every thoughtful person must admit that a cause exists why so many women are childless.

The subject baffles the theories of physicians. Such cases are curable nine times out of ten, as evidenced by thousands of letters on file at Mrs. Pinkham's office. Many a darling baby owes its existence to Mrs. Pinkham's advice and the Vegetable Compound. This is not to be wondered at when such testimony as the following explains itself:

"I have taken three bottles of your Vegetable Compound, one package of Sanative Wash, one box of Liver Pills; and now I have a dear little babe four weeks old, and I am well. I have to thank you for this."

"I have spent \$200.00 for doctor's bills without obtaining any relief. For my cure I only spent \$5.00."

"I had been a victim of female troubles in their worst form; suffered untold agonies every month; had to stay in bed, and had poultices applied, and then could not stand the pain."

"My physician told me I would never be a mother. I had bladder trouble, backache, catarrh of the stomach, hysteria, heart trouble, fainting spells. Can you wonder that I sing the praises of a medicine that has cured me of all these ills?"—MRS. GEO. C. KIRCHNER, 372 Belmont Ave., Brooklyn, N.Y.

The Field.

Sugar beets have thrived so this year near Grand Island, Neb., that farmers have cleared on their crops twice the amount needed to pay for the land on which they were grown.

It is very difficult to keep soils fertile if they contain a large proportion of sand. If they are kept under cultivation this difficulty is increased, as the sand both blows and washes away when exposed to winds. For this reason many owners of sandy fields keep them seeded with grass or clover as much as possible, and only plowing them when the seedling runs out.

A market could be found for it at any trade center where the coffee-roasting business is carried on, and the seed can be procured from any dealer whose advertisements are found in this paper.

Report of the Kansas State Board of Agriculture.

The 10th Biennial Report of the Kansas Board of Agriculture is a comprehensive volume embracing the crop statistics of the State for the past two years. In the introductory summary, the Secretary, Mr. F. D. Coburn, explains that the report is not planned to be an immigration document, but to give useful information to the farmers of the State upon subjects bearing upon their vocation. The volume also con-

The Minnesota Station finds the largest yields of barley were given by French Chevalier, followed by Odessa, Champion of Vermont, Highland Chief, Black Hulls, and Salzer.

The largest yields of oats were given by Giant Seed, Wide Awake, Haggett White, Early Swedish, White Russian, and Improved Ligowo.

The largest of field peas yield was given by White Canada Field, 20.3 bushels, followed by Alpha, Blue Prussian, Crown, and Green Canada Field.

Dwarf Essex gave the largest yield of rape, 18.3 tons per acre.

Planted at depths of half, one, and one-half inches, mangel, ruta-baga, and carrot seed gave the largest yields with the shallowest planting, and turnips at one and one-half inches deep. With plants four inches apart in 18, 24, 30, and 36-inch rows, the turnips yielded best at 18 inches, ruta-bagas at 24 inches, and mangels at 30 inches.

Dobbins' Soap Mfg. Co., Phila., the makers of Dobbins' Electric Soap, say they would rather close up their immense works than to put one grain of adulteration in their Dobbins' Electric Soap. Would that all were as honest.

Tobacco in Louisiana.

The Louisiana Station reports as the result of experiments:

"Our soils are not well adapted to cigar tobacco."

"Hester, Ragland Improved Yellow Oronoko, Conqueror, Long Leaf Gooch, and Hyco are the best varieties of the bright-leaf type."

"The old pine fields of north Louisiana can be reclaimed in producing these types of tobacco, and that with liberal fertilizing good profits are sure."

SEND YOUR ADDRESS ON A POSTAL CARD

Mention Country and get an Orchestra Music Box 7-1/2 foot long, 5-1/2 high, and 5-1/2 wide, or a Gold Plated Stem Winding Watch free, if you sell among friends 9 pieces of jewelry which we mail at our risk. When sold you send money and we send present, or keep half the money instead of a present. Say you will return what you don't sell. Write name Miss, Mr. or Mrs. N.Y.T.Co., 57 E. 11th St., New York.

imported raw, and roasted and ground tains the statistics of the census of 1895. From this census it appears that there were 185,394 farmers in the State.

Naturally corn is given the place of honor in the report and is discussed first. This crop is shown to have been in 1895-'96, 422,876,810 bushels, worth \$81,822,785. It is curious to notice that in spite of the complaint about the depression in the price of wheat, that the 43,755,918 bushels are valued at \$20,720,312, or nearly 50 cents a bushel on the average.

The volume contains a vast amount of the latest information relative to lesser crops, both grain and forage, such as rye, barley, buckwheat, broom-corn, Kaffir-corn, Jerusalem-corn, alfalfa, etc., the tuber crops, dairying interest, and cotton, tobacco, wool and horticultural products. The text is fully illustrated with numerous half-tone plates. It is much to the credit of the State that an edition of 12,500 has been printed, although even this number is far from the actual demand for the work from people who would be benefited by its perusal.

It is estimated that over 10 per cent. of the potato crop of southwestern Michigan was left in the ground by reason of the low price in the Fall.

A Seedman Gives Away Watches. F. B. Mills, the Seedman of Rose Hill, N.Y., intends to make this his tenth year of business, a bargain year. To this end, he offers 13 great collections of vegetable and flower seeds, giving every person who sends an order for one or more collections a present, the value of which will depend upon the amount of the order. To anyone who sells 25 of these collections at 25c each, Mr. Mills will present an American lever, open face, stem-wind watch, guaranteed a reliable time-keeper. All particulars may be obtained by addressing him as above.



Hustling and hasty meals often play havoc with the traveling man's digestion. An experienced commercial man, who spends most of his time on the road, states that he never allows himself to be without a supply of

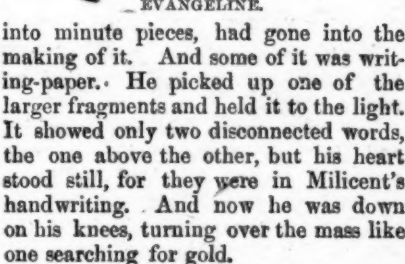
RIPANS TABULES

He takes four or five Tabules a week, always one after a hearty or hurried meal, and finds them a mighty nice thing. For all those ails that come from indigestion, dyspepsia and a lazy liver there is no remedy so certain as

RIPANS TABULES.

"Yields of grain and straw from seedings at different dates fluctuate more nearly together than do those from different rates of seeding.

"Comparatively shallow seeding necessary."





Superior.
Snyder—I would rather have
glass of German beer as tree glasses of
American.
Mike Casey—Now how is that?
Snyder—De German glasses vos four
times as pig.

More Poetical Than Useful.
"I woke up in the night, but couldn't
tell the time; my watch had stopped."
"What kind of a watch is it?"
"One of those silent midnight
watches."

A New Year's Celebration.



—Texas Siftings.

The Best.
The best make-up for an actor is a
make-up with his manager.

A Probable Result of Daily Libels.
First Antiquarian—I think that be-
fore the land from the Atlantic to the
Pacific was called Chicago, or about
2000, the ancient race inhabiting this
country had the most ugly women that
ever existed.
Second Antiquarian—Why?
"I've looked over the cuts in their
newspapers covering a period of 400
years."

Paid the Penalty.
First Manager—I see that Curtin-
call, the actor, is gone.
Second Manager—Yes, frozen to
death.
"How did it happen?"
"He tried to produce a Chicago suc-
cess in New York."

At the Museum.
Crags—I've heard a lot of scandal
to-day.
Lagge—What was that?
"Why, that the man from Borneo
was a little wild in his youth."

Overdid Himself.
Wright—Why doesn't Jephthah patro-
nize Flashlight, the photographer, any
more?
Harmon—He promised to give him a
speaking likeness of his wife.

**Friend—Is your new play doing
well?**
Manager—The house is crowded every
night like an elevated train.



Hans across the sea.
—Texas Siftings.

**Miss Millions—Will you ever love
another?**
Charley Needmore—Well, it was
such hard work getting to love you
that I don't believe I will.

Might Have Known.
Careless Harry—What did yer see in
yer trip around de world?
Siesta Sam—Well, I seed wild ani-
mals, an' crowned heads, an' factories
workin' an' de rest.
Careless Harry—Wat did yer like
best?
Siesta Sam—De rest, of course.

THE DAIRY.

MAKING WINTER MILK.

Points on Concentrated Feed and Fod-
der Rations for Milch Cattle.

In his valuable paper at the Maine
Dairy Conference, on Economic Winter
Feeds for Milch Cows, Prof. J. B.
Lindsey, of the Hatch Experiment
Station, Massachusetts, explained the
composition and digestibility of feed-
stuffs and the ways in which the different
groups of food constituents are utilized
in the process of nutrition.

The actual digestible nutrients needed
by the dairy cow are as follows: Protein,
2.50; fat, .50, and carbohydrates, 13
pounds; making a total of 16 pounds.
They enable the animal to sustain a
good physical condition and to produce
a maximum and continued yield of
milk. The several feeds given her
should be classified, and as a result we
have the coarse feed and concentrated
feed.

COARSE FEED.

Upon farms having soil naturally
adapted to grass, the farmer naturally
raises large quantities of hay and depends
upon this to a considerable extent as a
source of coarse feed. Very unfortunately
there are few farms where land is fa-
vorable to production of large quantities
of hay, because of the lack of moisture.
Upon such land should be grown Indian
corn, because the corn plant extends
over a longer period of growth and will
withstand drouths better than grass.
Upon soils naturally dry, one can secure
a great deal more food from the corn
crop than when the same land is devoted
to the production of hay. The silo is
the most economical way in which to
preserve the corn crop. It might be
advisable in some cases to cure a portion
of the corn crop, because ensilage cannot
be used as the entire source of roughage.

MEDIUM GREEN SOJA BEAN.

In addition to corn fodder as a source
of ensilage, the speaker recommended
the medium green soja bean. This arti-
cle is imported from Japan and is sown
in drills two and one-half feet apart. It
can be cut and put into the silo at the
same time with the corn. It serves to
increase the protein content of the silage
and also to neutralize a large portion of
the acid.

VARIETY OF FOOD.

Roots are valuable as a source of milk
production, but are too expensive for
such a purpose.

The concentrated feeds were classified
and their comparative values for milk
production were explained in detail.
To produce the well-balanced daily ration,
it is necessary, for obtaining the
best results, to combine the coarse and
concentrated feeds.

For practical purposes it is not possi-
ble to weigh out the coarse feed, and a
great deal will have to be left to the
judgment of the feeder.

HAY AND ROOTS.

If hay alone is fed, give all the
animal will eat up clean twice a day.
It is hardly economical to feed over 15
pounds of roots daily. From 30 to 35
pounds daily is sufficient. More than
this will disturb the digestion of some
animals, and also cause many cows to
lose flesh. Nine to 12 pounds of hay
or other coarse feed of a similar nature,
together with 30 to 35 pounds of
ensilage, make sufficient coarse fodder
for an animal's daily needs.

WEIGH THE GRAIN.

While the coarse feeds can be fed ac-
cording to the feeder's judgment, it be-
comes necessary, both for the sake of
economy and health, to carefully weigh
the grain ration. The coarse feed will
furnish from 100 to 150 pounds of
digestible protein, and we add the con-
centrated feeds primarily to secure the
extra 100 to 150 pounds of protein
necessary to balance the ration.

THREE GRAIN RATIOMS.

The following grain mixtures will do
this, and are intended to be fed in con-
nection with coarse feeds:

1. Fifty pounds cotton, linseed or
gluten meal; 100 pounds grain feed;
100 pounds corn meal, mixed, and from
five to seven quarts fed daily.
2. Fifty pounds cotton, linseed or
gluten meal; 100 pounds grain feed;
100 pounds wheat bran, mixed, and
from seven to nine quarts fed daily.
3. One hundred pounds cotton seed
or gluten meal; 100 pounds wheat bran,
mixed, and seven to nine quarts fed
daily.

As a single grain feed, six to eight
quarts per day of Buffalo gluten feed
can be fed with safety, and will produce
satisfactory results.

The Portable Creamery.

What is a portable creamery? It is
not a creamer. This is not answering the
question, but it gives an opportunity
to explain that there is on the market
an article called a "creamery," from which
the cans must be lifted before the milk
and cream can be drawn and the final
separation of the cream and milk ac-
complished. The term "final separation"
is used in contradistinction to pri-
mary separation, or the separation of
the cream from the milk in accordance
with the law of specific gravity.

To return to the original question:
What is a portable creamery? It is a
construction designed for the practice of
the cold deep setting or Swedish system
of cream raising, and in the practice of
which there will be no lifting of cans
or skimming of milk and an economi-
cal use of cooling material.

The most complete construction of
portable creamery includes in combina-
tion a refrigerator, which is below its
ice and water tank and which can be
used to store cream and butter, and, if
desired, other articles of food. The re-
frigerator is kept cool by the same cool-
ing material—usually ice and water—

used in the tank above to cool the milk
and hasten the raising of the cream.

The construction of an up-to-date
portable creamery is such that many
advantages will be secured. For in-
stance, a glass of milk can be drawn
at any time without disturbing the
cream. While proper ventilation is pro-
vided, when the tank is first set for
cream raising, it is at the same time pro-
tected against any outside influences.
The conditions of a good portable
creamery as relates to inside tempera-
ture should be and can be the same in
July as in January. In fact one with a
refrigerator combined is in and of itself
a complete dairy-house. That it is a
great convenience, comfort and econ-
omy, many a farmer's wife who is to-
day using one will testify.

As there are about a dozen different
kinds of portable creameries on the mar-
ket it will be readily understood that
this is not advertising any particular
kind, but recommending all particular
kinds.

That all the cream can be obtained
by a correct practice of the Swedish
system of cream raising is now gener-
ally conceded by all intelligent persons
who have given the matter attention.
That a good portable creamery is the
proper dairy utensil in which to practice
that system must be apparent to any
one who has or who will examine it. It
will also be apparent that it fills not
only one but several wants on any farm
where one to any number of cows are
kept. It is useful in hotels, restaurants,
boarding schools and in all public board-
ing institutions.

Buying and Selling Cows by Tests of Their Milk.

The North Carolina Experiment Sta-
tion proposes a plan for buying and sell-
ing cows. It is based on the yield of
their milk, together with the quality of
the same as determined by tests of the
milk. The rule is to pay for the cow at
the rate of \$12 per gallon of milk given
per day that is rich enough to show $\frac{3}{4}$
percent of fat. To this price add or
subtract \$1 for every one-fourth of
1 percent of fat which is above or
below the $\frac{3}{4}$ percent. By this rule a
cow is bought entirely on her merits. It
is believed to be a conservative plan, and
one if adopted (or one upon a similar
plan) will certainly raise the standard
of cows and increase their milk and
butter production, for if they cannot be
sold easily for milk cows, they will soon
be turned over to the butcher, and a
better animal be kept or a willing pur-
chaser be found. The result cannot fail
to be beneficial to all parties.

An Icehouse for Every Farm.

Any farmer who has either a pond of
clear, fresh water or a running stream
from which such pond may be made,
loses a good deal of pleasure and com-
fort if he fails to provide an icehouse
that will supply at least his own family.
Wherever there is even a small dairy
the icehouse will pay large interest on
its cost. It enables the farmer to use the
cream, and thus secure a larger quan-
tity of cream and getting it in better
condition for making butter than can be
possible without ice. A comparatively
small icehouse will be large enough
where only the farm is to be supplied,
but as there is sure to be some demand
from neighbors it is better to build one
several times too large for merely home
use. It is economy to build at least 12
by 14 feet, and at least 12 feet high.
The principal care required is to have
good drainage for the water, but with-
out any chance for air to get to the ice
through the drainway. A bed of gravel
boards for inclosing the air-tight spaces
and packing these with sawdust, ice may
be kept with so little waste that it is
economy to put up enough for two years'
use when the Winter is favorable.

A Cow Pea Thrasher.

The North Carolina Experiment Sta-
tion has been testing the "Success Pea
Thrasher," which promised to do great
things.

At the first trial of 15 minutes 31½
pounds, corresponding to 2.1 bushels per
hour, were thrashed and fairly cleaned.
This required one man to feed the ma-
chine, while two turned the wheel. It was
impossible for these two men to have
continued with the same labor for more
than half a day. At the second
trial, run for 44 minutes, the rate of
1.57 bushels per hour was secured. As
compared with these results, three men
were employed to whip out the peas by
hand and to fan them clean also by
hand. Occupied thus for 44 minutes,
they secured the rate of 3.6 bushels per
hour of cleaned peas. This is more
than double the result from the Success
Thrasher in the second trial and nearly
double from that in the first. The ma-
chine therefore cannot be recommended.

A Tiny Engine.

A. M. Herring, the Chicago flying-
machine inventor, has just finished build-
ing an eight-horse-power gasoline engine
to be used in propelling an aeroplane
machine, which, he says, is the lightest
engine proportional with the strength
ever constructed, says the Chicago Trib-
une. It is said to be so light and
smooth running that it stands upon a
pasteboard box when in operation. The
engine weighs only 9.34 pounds. It is
25x5½ inches, and was built at a cost
of \$500. The engine has a twin cylinder.
There are to be two engines on the aro-
plane for moving propellers front and
rear. The engine has two cylinders
made from solid steel, bored out, then
hardened and tempered, and ground to
size and a fit. These cylinders weigh
only eight-tenths of a pound each.
Tempering the cylinders was the most
difficult thing in building the engine, as
they are only one-twenty-fifth of an inch
in thickness, and Mr. Herring says a
special process had to be devised to ac-
complish it.

THE ORCHARD.

Callings.

On Puget Sound and in eastern
Washington prune, peach and apple
trees have been destroyed by thousands
by early cold weather. It is estimated
that 500,000 trees have been killed.

In the orchard of Samuel Reynolds,
of Lawrence, Kan., is a Vandiver
Pippin apple tree, 40 years old, which
measures 12 feet in the circumference of
the trunk. The boughs spread over a
circle having a diameter of 100 feet.

PERSIMMONS.

The Indiana Station Believes Them a
Valuable Fruit.

The Indiana Experiment Station be-
lieves that the American persimmon can
be made a very valuable fruit, and has
recently issued a bulletin giving the re-
sults of experiments, and other knowl-
edge obtained up to date.

It is believed that more attention
should be paid to the persimmon, and
that in consequence of efforts to improve
the fruit instead of the neglect it now
receives this species may be developed
into a valuable horticultural product.
The species grows wild in most of the
Southern States, but will ripen fruit as
far North as the Great Lakes, and seems
especially adapted to the soil and climate
of the southern half of Indiana. The
trees vary in height from 20 to 80 feet,
according to the land on which they
grow.

The flowers are dioecious, both the
staminate and pistillate being borne on
the same tree, although some trees pro-
duce only staminate blossoms. The
flowers are rich in nectar. The fruit is
subglobose, from one-half to two inches
in diameter, and borne on a very short
fruit-stalk. The number of seeds in the
fruit varies from two to several, although
some varieties are practically seedless.
All persimmons possess a peculiar astrin-
gency when green, which is lost upon the
fruit becoming ripe, from August to
December, the time varying with the
variety.

The propagation may be from the
seeds or by means of budding or graft-
ing, which should be done in the Spring.
The stocks for grafting should be at
least two years old. The top working
of old trees has been successfully per-
formed, and is believed to be desirable
in many cases.

The transplanting of persimmons is
difficult on account of the long taproot;
hence it is safest to transplant trees only
one to two years old. The transplant-
ing is best done in the Autumn.

Persimmons grow on almost any kind
of soil, from a rich bottom land to the
poor thin soil of hilltops; but a warm,
rich soil, with sunny exposure, is best
adapted. They give best results under
judicious cultivation and pruning.

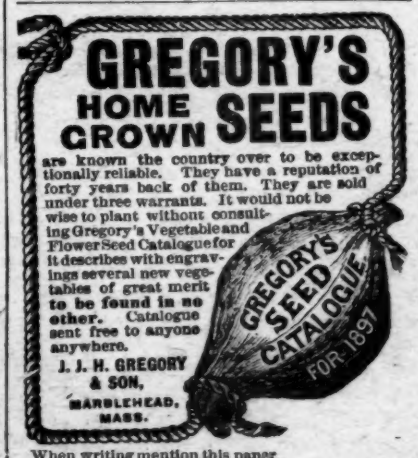
The varieties Shoto, Early Bearing,
Golden Gem, Daniel Boone, Hicks,
Kansas, Smeeth, and Early Golden are
described, and several of the varieties
illustrated from photographs. These
varieties have been recently improved
from wild fruits, and are believed to be
capable of still further improvement.

Directions are given for keeping per-
simmons by placing them in a cool, dry
place, and for canning the ripe fruit by
placing it in sirup in jars. A recipe is
given for persimmon pudding.

Tree Farming.

The importance of tree farming in the
lands which, either from lack of food
material in them or from location, are on
steep hillsides, are fit for nothing else,
and the money to be made in it, is being
quietly proved in hundreds of localities.
Tree planting, to prevent the loss of fer-
tility and the loss of moisture, is rarely
appreciated even by those whose farms
are washed away by every driving rain.
The forest covering protects the soil in
the following ways:

1. By preventing rain from falling
directly upon the soil, the foliage of the
tree crowns intercepting and breaking
its force, the water reaching the soil
more gently from the leaves along the
branches and trunks of the trees.
2. By interposing a loose cover, a
mulch of litter, formed by the fall on
branches and leaves, which breaks the
direct force of the raindrops, and keeps
the soil from being compacted or pud-
dled by their blows.
3. The deeply penetrating roots and
holes left from decayed stumps and roots



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of trees assist in this underground drain-
age.

4. The litter with the stumps and pro-
tecting roots and trunks of trees pre-
vents the water from rapidly running
over the ground, and from gaining the
momentum and force which is necessary
in order to gully the soil, and prevents
the drifting and the rapid thawing of
snow, thereby insuring more even dis-
tribution of the waters, and increases
the time during which it can be absorbed
into the soil.

Wherever the ground in hilly country
is not fit for agricultural use it should
be kept and set as forest, not only to
make it produce a timber crop, but to
prevent the washing. The forest should
occupy all hill-tops, which, as a rule,
have too thin a soil for profitable agri-
cultural use; it should be kept growing
on the steeper slopes, where the water
acquires the greatest momentum, and
the loosening of the soil by the plow
favors erosive action, and it should be
on all rocky and uneven spots, because
producing useful material even on such
unfavorable situations.

Sky-scraping Trees.

What are said to be the tallest trees
in the world are to be found in the
forests of Victoria, Australia. They
belong to the eucalyptus family, and
range from 350 to 500 feet in height.
One of them that had fallen was found
by measurement with a tape to be 438
feet from the roots to where the trunk
had been broken off by the fall, and at
that point the tree was three feet in
diameter. The tree grows with astonish-
ing rapidity. A tree of this species
planted in Florida grew 40 feet in four
years, with a bole of a foot in diameter.
Trees of the same species in Guatemala
grew 120 feet in 12 years. The same
one was nine feet thick. Piles from
100 to 150 feet long are being used by
the Tacoma Land Co., of Tacoma,
Washington, in placing the portions of
a sea wall with a pile and stringer
wharf. The water is 30 feet deep, and
the outer row of piles ranges from 100
to 105 feet in length, 10 inches in
diameter at the tip and 27 inches at the
butt. These piles are of the "Douglas
Pine."

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